



Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS
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CROP REPORT FOR WEEK ENDING AUGUST 5

AGRICULTURAL SUMMARY

Hot humid weather continued during the week. Some areas received rain, but precipitation was minimal in most areas of the state. Driest soil conditions exist in the northeast and southwestern portions of the state, according to the Indiana Agricultural Statistics Service. Corn and soybeans continue to be in mostly good condition around the state. Weeds are popping up in some soybean fields.

FIELD CROPS REPORT

There were 5.9 **days suitable for fieldwork**. Corn **condition** is rated 79 percent good to excellent compared with 79 percent last week and 80 percent last year at this time. Virtually all of the corn acreage has **silked** compared with 99 percent last year and 85 percent for the 5-year average. Fifty-one percent of the corn acreage has reached the **dough** stage compared with 56 percent last year and 31 percent for the average. Soybean **condition** is rated 73 percent good to excellent compared with 72 percent last week and 68 percent last year. Ninety-eight percent of the soybean acreage is **blooming** compared with 95 percent last year and 82 percent for the average. Seventy percent of the soybean acreage is **setting pods** compared with 67 percent last year and 45 percent for the average. By area, 66 percent of the soybean acreage is setting pods in the north, 72 percent in the central regions and 70 percent in the south. Other activities during the week included harvesting mint, spraying weeds, mowing road sides, cleaning grain bins, repairing equipment, moving grain to market and care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 7 percent excellent, 45 percent good, 34 percent fair, 11 percent poor and 3 percent very poor. Third cutting of **alfalfa** hay is 44 percent complete compared with 37 percent a year earlier. Livestock were still under stress last week due to the hot, humid weather.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	100	99	99	85
Corn Dough	51	26	56	31
Corn Dent	11	NA	14	4
Soybeans Blooming	98	94	95	82
Soybeans Podding	70	50	67	45
Alfalfa Third Cutting	44	20	37	NA

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	1	4	16	56	23
Soybeans	1	6	20	56	17
Pasture	3	11	34	45	7

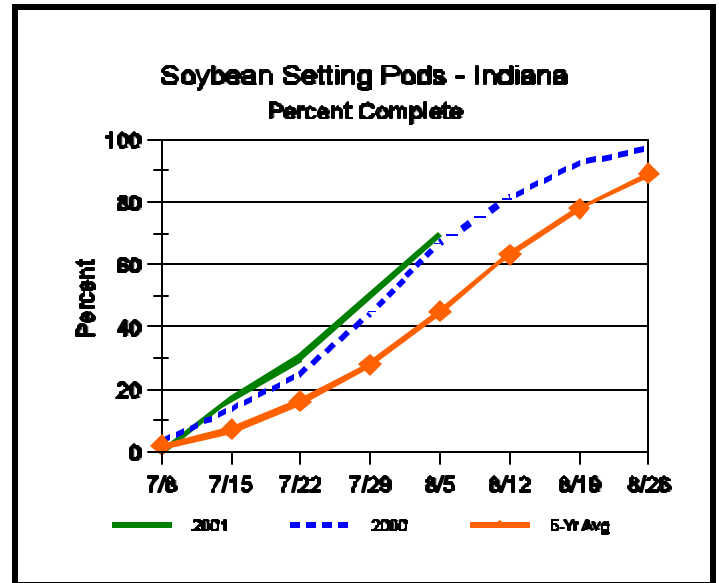
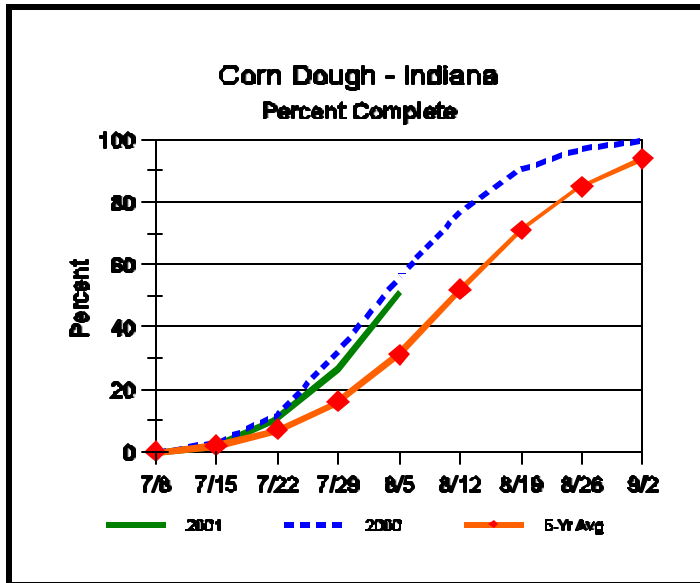
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	5	3	3
Short	21	16	16
Adequate	67	67	70
Surplus	7	14	11
Subsoil			
Very Short	6	4	5
Short	25	22	23
Adequate	65	66	67
Surplus	4	8	5
Days Suitable	5.9	4.4	4.1

CONTACT INFORMATION

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Crop Progress



Other Agricultural Comments And News

Grain Fill Stages in Corn

The grain fill period begins with successful pollination and initiation of kernel development, and ends approximately 60 days later when the kernels are physiologically mature. During grain fill, the developing kernels will be the primary sink for concurrent photosynthate produced by the corn plant.

What this means is that the photosynthate demands of the developing kernels will take precedence over that of much of the rest of the plant. In essence, the plant will do all it can to 'pump' dry matter into the kernels, sometimes at the expense of the health and maintenance of other plant parts.

A stress-free grain fill period can maximize the yield potential of a crop, while severe stress during grain fill can cause kernel abortion and lightweight grain. Fortunately up to this point in the 2001 growing season, weather and moisture conditions have been reasonably favorable for grain filling.

Kernel development proceeds through several relatively distinct stages.

Silking Stage (Growth Stage R1). Some may argue whether silking should be labeled as a kernel growth stage, but nonetheless silk emergence is technically the first identifiable stage of the reproductive period. Silks remain receptive to pollen grain germination up to 10 days after silk emergence. After 10 days without

being pollinated, silk receptivity decreases rapidly. Natural senescence of silk over time results in collapsed tissue that restricts continued growth of the pollen tube. Silk emergence usually occurs in close synchrony with pollen shed, so that duration of silk receptivity is normally not a concern. Failure of silks to emerge in the first place, however, does not bode well for successful pollination.

Kernel Blister Stage (Growth Stage R2). About 10 to 14 days after silking, the developing kernels are whitish 'blisters' on the cob and contain abundant clear fluid. The ear silks are mostly brown and drying rapidly. Some starch is beginning to accumulate in the endosperm. The radicle root, coleoptile, and first embryonic leaf have formed in the embryo by the blister stage. Severe stress can easily abort kernels at pre-blister and blister stages. Kernel moisture content is approximately 85 percent.

Kernel Milk Stage (R3). About 18 to 22 days after silking, the kernels are mostly yellow and contain 'milky' white fluid. The milk stage of development is the infamous 'roasting ear' stage, that stage where you will find die-hard corn specialists out standing in their field nibbling on these delectable morsels. Starch continues to accumulate in the endosperm. Endosperm cell division is nearly complete and continued growth is

(Continued on Page 4)

Weather Information Table

Week ending Sunday August 5, 2001

Station	Past Week Weather Summary Data							Accumulation				
	Air Temperature				Precip.		Avg 4 in Soil Temp	April 1, 2001 thru August 5, 2001				
								Precipitation		GDD Base 50°F		
	Hi	Lo	Avg	DFN	Total	Days		Total	DFN	Days	Total	DFN
Northwest (1)												
Valparaiso_Ag	92	63	78	+7	1.15	2		14.93	-1.71	59	2018	+213
Wanatah	93	59	77	+6	0.41	2	83	15.96	-0.24	59	1912	+186
Wheatfield	92	62	78	+6	0.23	1		14.61	-1.22	55	2020	+246
Winamac	91	63	77	+5	0.21	1	83	17.09	+1.24	56	2010	+173
North Central(2)												
Logansport	91	63	78	+5	0.26	1		21.71	+6.41	60	2032	+152
Plymouth	92	62	78	+5	0.15	1		15.78	-0.74	55	1883	-34
South_Bend	92	63	79	+7	0.14	1		15.49	-0.03	54	1989	+198
Young_America	91	61	77	+4	0.42	2		18.25	+2.95	53	2094	+214
Northeast (3)												
Bluffton	91	62	77	+4	0.02	1	79	15.99	+0.48	59	2043	+116
Fort_Wayne	90	60	77	+4	0.00	0		17.12	+2.71	56	2016	+141
West Central (4)												
Crawfordsville	92	60	77	+3	0.12	1	79	16.12	-1.23	53	2015	-13
Perrysville	89	63	77	+4	0.35	1	82	14.26	-3.03	50	2173	+185
Terre_Haute_Ag	95	65	80	+5	0.04	1	83	21.46	+3.95	49	2383	+265
W_Lafayette_6NW	92	60	77	+5	0.06	1	85	12.96	-2.95	49	2163	+284
Central (5)												
Castleton	90	68	79	+5	0.00	0		20.18	+3.18	52	2204	+125
Greenfield	92	67	81	+8	0.13	2		21.04	+3.07	54	2278	+273
Greensburg	91	64	78	+6	0.36	2		19.16	+1.69	54	2303	+341
Indianapolis_AP	90	67	79	+5	0.00	0		18.77	+2.45	44	2327	+228
Indianapolis_SE	91	63	78	+3	0.09	1		17.18	+0.18	49	2123	+44
Tipton_Ag	90	58	76	+5	0.01	1	77	14.75	-1.39	44	1963	+141
East Central (6)												
Farmland	91	62	77	+6	0.12	2	78	17.00	+1.15	51	2009	+235
New_Castle	87	58	74	+3	0.47	1		24.46	+7.04	55	1794	-20
Southwest (7)												
Dubois_Ag	93	65	79	+5	0.11	2	83	16.76	-1.99	45	2459	+333
Evansville	93	66	80	+3	0.11	2		15.00	-1.87	47	2680	+224
Freelandville	91	68	80	+5	0.00	0		15.37	-2.13	38	2450	+259
Shoals	91	64	79	+4	0.10	2		18.09	-0.88	48	2318	+210
Vincennes_5NE	94	64	80	+6	0.97	2	81	14.09	-3.41	33	2550	+359
South Central(8)												
Bloomington	92	64	79	+5	0.01	1		17.19	-0.35	49	2310	+167
Tell_City	92	68	81	+5	0.05	1		14.27	-4.76	35	2598	+266
Southeast (9)												
Scottsburg	92	65	79	+4	0.43	3		18.35	+0.51	60	2397	+223

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

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Grain Fill Stages in Corn (Continued)

mostly due to cell expansion and starch accumulation. Severe stress can still abort kernels, although not as easily as at the blister stage. Kernel moisture content is approximately 80 percent.

Kernel Dough Stage (R4). About 24 to 28 days after silking, the kernel's milky inner fluid is changing to a 'doughy' consistency as starch accumulation continues in the endosperm. The shelled cob is now light red or pink. By dough stage, four embryonic leaves have formed and about 1/2 of the mature kernel dry weight is now in place. Kernel abortion is much less likely once kernels have reached early dough stage, but severe stress can continue to affect eventual yield by reducing kernel weight. Kernel moisture content is approximately 70 percent.

Kernel Dent Stage (R5). About 35 to 42 days after silking, all or nearly all of the kernels are denting near their crowns. The fifth (and last) embryonic leaf and lateral seminal roots form just prior to the dent stage. A distinct horizontal line appears near the dent end of the kernel and slowly progresses to the tip end of the kernel over the next 3 weeks or so. This line is called the 'milkline' and marks the boundary between the liquid (milky) and solid (starchy) areas of the maturing kernels. Severe stress can continue to limit kernel dry

weight accumulation. Kernel moisture content at the beginning of the dent stage is approximately 55 percent.

Physiological Maturity (R6). About 55 to 65 days after silking, kernel dry weight usually reaches its maximum and kernels are said to be physiologically mature and safe from frost. Physiological maturity occurs shortly after the kernel milk line disappears and just before the kernel black layer forms at the tip of the kernels. Severe stress after physiological maturity has little effect on grain yield, unless the integrity of the stalk or ear is compromised (e.g., ECB damage or stalk rots). Kernel moisture content at physiological maturity averages 30 percent, but can vary from 25 to 40 percent grain moisture.

Harvest Maturity. While not strictly a stage of grain development, harvest maturity is often defined as that grain moisture content where harvest can occur with minimal kernel damage and mechanical harvest loss. Harvest maturity is usually considered to be near 25 percent grain moisture.

Bob Nielson, Dept. of Agronomy, Purdue University. This article also contains pictures, which can be viewed at: http://www.entm.purdue.edu/entomology/ext/targets/p&c/P&C2001/P&C18_2001.pdf, pgs. 4-6.

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